


PRE-APPEAL BRIEF REQUEST FOR REVIEW		Docket Number Q87983	
Mail Stop AF Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Application Number	Filed	
	10/535,174	March 17, 2006	
	First Named Inventor		
	Jean BEGUINOT		
	Art Unit	Examiner	
	1793	Jie YANG	
WASHINGTON OFFICE 23373 CUSTOMER NUMBER			
Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.			
This request is being filed with a notice of appeal			
The review is requested for the reasons(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided.			
<input checked="" type="checkbox"/> I am an attorney or agent of record.			
Registration number 47,121		 Signature	
		Keiko K. Takagi Typed or printed name	
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		April 30, 2009 Date	

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Docket No: Q87983

Jean BEGUINOT, et al.

Appln. No.: 10/535,174

Group Art Unit: 1793

Confirmation No.: 2367

Examiner: Jie YANG

Filed: March 17, 2006

For: WELDABLE COMPONENT OF STRUCTURAL STEEL AND METHOD OF MANUFACTURE

PRE-APPEAL BRIEF REQUEST FOR REVIEW

MAIL STOP AF - PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Pursuant to the Pre-Appeal Brief Conference Pilot Program, and further to the Examiner's Final Office Action dated January 30, 2009, Applicant files this Pre-Appeal Brief Request for Review. This Request is also accompanied by the filing of a Notice of Appeal.

Applicant turns now to the rejections at issue: Claims 1-5 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Vander Voort (US 4,171,233) or Bhadeshia (WO 96/22396).

Appellants respectfully submit that neither Vander Voort nor Bhadeshia render the present invention obvious.

Claim 1 is directed to a weldable component of structural steel, characterized in that its chemical composition comprises, by weight:

$$0.40\% \leq C \leq 0.50\%$$

$$0.50\% \leq Si \leq 1.50\%$$

$$0\% \leq Mn \leq 3\%$$

$$0\% \leq \text{Ni} \leq 5\%$$

$$0\% \leq \text{Cr} \leq 4\%$$

$$0\% \leq \text{Cu} \leq 1\%$$

$$0\% \leq \text{Mo} + \text{W}/2 \leq 1.5\%$$

$$0.0005\% \leq \text{B} \leq 0.010\%$$

$$\text{N} \leq 0.025\%$$

$$\text{Al} \leq 0.9\%$$

$$\text{Si} + \text{Al} \leq 2.0\%$$

optionally at least one element selected from V, Nb, Ta, S and Ca, at contents of less than 0.3%, and/or from Ti and Zr at contents of less than or equal to 0.5%, the remainder being iron and impurities resulting from the production operation. The contents of aluminum, boron, titanium and nitrogen, expressed in thousandths of %, of the composition also satisfying the following relationship:

$$\text{B} \geq \frac{1}{3} \times \text{K} + 0.5, \quad (1)$$

$$\text{with K} = \text{Min}(\text{I}^* ; \text{J}^*)$$

$$\text{I}^* = \text{Max}(0 ; \text{I}) \quad \text{and} \quad \text{J}^* = \text{Max}(0 ; \text{J})$$

$$\text{I} = \text{Min}(\text{N} ; \text{N} - 0.29(\text{Ti} - 5))$$

$$\text{J} = \text{Min} \left(\text{N} ; 0.5 \left(\text{N} - 0.52 \text{Al} + \sqrt{(\text{N} - 0.52 \text{Al})^2 + 283} \right) \right),$$

and whose structure is bainitic, martensitic or martensitic-bainitic and also comprises from 3 to 20% of residual austenite. A main feature of the present invention is the synergy between boron and silicon. *See e.g.*, page 4, lines 19-24 of the present specification.

Vander Voort describes a steel for molds that can contain boron, however, when it does contain boron, the silicon content is limited. *See* the formula related to surface roughness, col. 10, lines 8-15; Tables IV and V; col. 5, lines 29-59. Moreover, Vander Voort does not consider weldability of the steel. That is, the steel of Vander Voort does not simultaneously contain boron and high silicon. Accordingly, one of ordinary skill in the art would not expect the weldability of the steel of Vander Voort to be high.

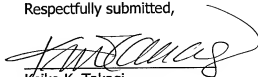
Bhadeshia describes a steel for rails having good weldability due to the structure, which is bainitic after air cooling. *See* page 6, second paragraph. This steel is able to be used to produce parts having special structures. However, the carbon content is less than 0.5%, or better yet, less than 0.35%. *See* page 8, Table 1 and the following paragraph. Furthermore, boron is only optional. *See e.g.*, claims 1 and 2 or claims 8 or 9. Indeed, all of the Examples are outside the scope of claim 1. *See* page 10, first paragraph (one example contains 0.22% C and no boron and the other examples contain 0.24% of C). Moreover, Bhadeshia does not give any indication concerning a possible advantage resulting from simultaneous presence of boron and a high content of silicon.

For at least the above reasons, it is respectfully submitted that the present invention is not taught or suggested by the cited references, and that the present invention would not be obvious to one of ordinary skill in the art.

In addition, claims 2-5 depend from claim 1, and thus it is respectfully submitted that these claims are patentable for at least the same reasons as claim 1.

Accordingly, reconsideration of the rejections under 35 U.S.C. § 103(a) is respectfully requested.

Respectfully submitted,



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